

atropia, two grains to an ounce of water, put into the eye once daily, or oftener, and continued while any cloudiness remains. Should perforation of the cornea take place, hernia of the iris may perhaps be prevented by its use, and if the opening is small and is promptly healed, good vision may be preserved. The physician should not relax his vigilance until the symptoms are much improved, as the cornea sometimes yields unexpectedly, under the effects of the long continuance of the disease, even in its later stages and after its force is apparently spent.

Every pains should be taken to secure good nutrition for the child. Without exposing it to cold, the air of the room should be renewed. The light should be moderated, so that the child may open its lids when they are not too much swollen, and thus permit the discharge of the secretions. The child will not open its eyes if the room is too light or too dark.

The prognosis of this affection is favorable, even in the severest cases, if treated promptly and diligently from the outset; and I once more urge use of the simpler remedies as unquestionably the best. But if ulceration or a sloughy condition of the cornea is already present when treatment is begun, the result is often unfavorable, whatever means may be employed. Yet we need not wholly despair even where these conditions exist, as the eye will sometimes recover with at least partial vision.

A most important part of the physician's duty is to take every precaution against contagion. A minute particle of the morbid secretion may convey the disease to the eye of a healthy person. The attendant should therefore direct the thorough cleansing or destruction of all articles soiled with the purulent discharge; great care in using the syringe, so that no drop of the injection may be thrown back from beneath the lids into the eye of the nurse; and immediate washing of the hands whenever they have touched the sore eyes or anything contaminated by them.

AFFECTIONS OF THE SEBACEOUS GLANDS.

BY EDWARD WIGGLESWORTH, JR., M. D.

THE affections of the sebaceous glands, as far at least as frequency of occurrence is concerned, play in dermatology a rôle second only to that of eczema. The vernix caseosa of the fœtus, the crusta lactea of the infant, the "maturing pimples" of youth, and the seborrhœa of the scalp so frequently causing loss of hair during early maturity, are all merely manifestations of varying action on the part of the sebaceous glands. The "public evil comes home to each" practitioner of medicine, in the form of acne, more common in America than in Europe,

in the lean and nervous than in the stout and placid, in the North than in the South, in variable than in equable climates, and also especially prevalent in manufacturing districts; acne, the only perfect prophylactic against which is a fatty liver, and whose only permanent cure is senility. Now what is necessary for the proper treatment of the quantitative excess and the qualitative alteration of the secretion of these glands, and their inflammatory sequelæ? Is it an accurate acquaintance with the pathologico-histological anatomy of the material involved, and an exact knowledge of the physiological and chemical forces to be brought to bear? By no means! Buckingham and Trousseau have given the hint and the axiom as regards the therapy of such cases. The former says, "The country girl washes her face with soap, and does not have acne; the city girl abstains from the use of soap, and does." The latter declares, "*Le remède n'est rien, la médication est tout et le mode d'administration principalement quelque chose de sacramental.*" In other words, Buckingham tells us what to use, and Trousseau the need of the proper use of it; for in the treatment of skin diseases the mechanical forces are often as potent as the chemical ones.

A very common affection, and one particularly distressing to the patient on account of the personal disfigurement involved, is comedones, the so-called "black-heads" or "skin-worms," in the language of quack advertisements. These occur especially upon the face and neck, also upon the breast and back, more particularly upon their upper parts, though they may occur wherever external influences tend to cause the obstruction of the sebaceous and hair follicles, as in the case of workers in metals, printer's ink, tar, etc. The disease consists in an over-accumulation of the natural secretion, with perhaps a deficiency in its more fluid constituents, with epithelial and gland cells, fat drops, embryonic hairs, often acari folliculorum, and sometimes crystals of cholestearine. This plugging of the follicles may be near their exits and quite superficial, may extend throughout their whole length, or may be deep-seated, in which latter case it tends to result in the formation of acne pustules. Where the skin is thick, the hair follicles long, and the sebaceous glands deep-seated, the heaping-up is apt to occur at the lower and closed end of the follicle. The black color of the free extremity of the sebaceous plug is due simply to dirt, the dust of the air being caught and retained by the oily and exposed surface of the plug.

The therapy consists in removing the plug and restoring the glands to their normal conditions. Constitutional treatment is also frequently of service, as comedones seem to be more frequent when phthisis, scrofula, or other general processes interfering with nutrition are present. The inspissated plugs are best removed by placing a watch-key over each of them in succession, and then pressing steadily and firmly down. The plug comes out like a worm (whence the common name

of the disease), pushing itself upwards into the bore of the tube of the key; it often springs out with a jerk perceptible by both patient and physician. It may be pressed out with the two thumb-nails or with a spatula. The key should have a large bore to admit of the entrance of the plug; the walls of the tube should be thick and smooth, as in new keys, to avoid cutting through the skin as with a punch, and the key should be placed upon the skin exactly perpendicularly, to prevent any cutting by one of the angular edges. It does not do at first to persevere in the use of the key if the reaction of the skin leaves a condition of things worse than that previous to treatment, as may sometimes be the case with skins predisposed to urticaria. As a rule the slight reaction soon disappears, therefore the operation should be performed at bed-time to give the skin an opportunity of regaining its normal condition before it is seen by others than the patient himself. Nor should many comedones be thus removed at the same time from a limited district of skin, lest the reaction should be too intense. They should be extracted from different parts, and the complete removal of all of them may thus require a considerable number of days. The comedones are not always extruded by the first application of the key. In this case the face may be exposed to the steam of hot water for a time before using the key; or an attempt made a few days subsequently, after the additional treatment to be described, will often prove successful; or a troublesome but almost unfailing plan may be employed, which consists in inserting the point of a cambric needle into the aperture of the follicle to the depth of a hair's breadth, and moving it round, but not so as to draw blood. This dilates the follicle, besides removing the epithelium, or whatever closes the orifice and prevents the removal of the comedo, which then yields to the re-application of the watch-key. The comedones, if not removed, act as foreign bodies, like splinters of wood or needle-points, and cause an inflammation of the skin which results usually in acne-pustules. Coincidentally with the commencement of this treatment, and without waiting until all the comedones have been removed, we employ local applications.

As the best remedies are always the cheapest, so also the cheapest remedies are often the best; and the application first needed is that of soap, — common soft soap, “such as is used in washing floors,” “three cents a quart at any grocer’s,” for skins that will bear it; for thinner skins, common yellow bar soap may be used, or for very delicate ones white castile soap. Skins too delicate to bear castile soap are, as the rule, too thin to allow of the formation of comedones, and skins too dry to bear it are rarely troubled by excessive formation of sebaceous material. When such cases do occur, for instance in delicate women, sponging the face with cologne water should be substituted. Our object is of course to soften and remove the epithelium, dissolve any still remaining

sebum, and wash out those follicles already emptied by means of the key. The chemical agents which dissolve fats are the ethereal oils, ethers, chloroform and alcohol, and the alkalies. The oils smell and are often too stimulating; ether, chloroform, and even alcohol evaporate too readily and are inferior to the alkalies, though of service alone and of still more use in combination with other remedies. Of the alkalies, lime and ammonia are not easy of application, or are too caustic. Soda and potassa are present in soaps, soda in the hard and potassa in the soft soaps. Soaps give us the cheapest, the most readily obtainable, the most easily applied, and the most efficacious applications. Moreover, the mildness or severity of treatment required is most easily gauged by the use of soaps. Chemically, the soft soaps possess more solvent power than the hard; mechanically, we can increase the action of soap by rubbing it in rather than spreading it on, or by spreading it as a plaster on cloth and applying it thus rather than spreading it upon the skin. Or by the combination of these two the effect is still more increased. German soft soap (*sapo viridis*) is a more elegant application than common soft soap. The finest preparation of all is the German soft soap (two ounces) dissolved in alcohol (one ounce) and allowed to digest for twenty-four hours, then strained and, if wished, flavored. The alcohol should be pure rectified spirit. This spirits of soap is best applied with white flannel, and rubbed into the skin either alone or with the addition of warm water, as the alcohol evaporates and the soap hardens. When merely washing the skin is not sufficient, the soap should be rubbed on and the foam allowed to stay all night. After a week or two of the use of the watch-key, followed by that of soap, the key may generally be dispensed with, the face merely washed with soap three times daily, and white precipitate ointment applied at night with the finger, left on all night, and washed off with soap in the morning. If at any time the skin becomes too dry, irritated, painful, and furfuraceous from the use of soap, this may be temporarily omitted, while the ointment is continued. Or the diachylon ointment of Hebra may be substituted. The former gives us the action of mercury upon the glands; the latter acts as an astringent. Both remedies supply to the skin proper the fat removed from it by the alkali, while at the same time they soften the hardened sebum in the follicles. The action of mercury may also be obtained by using two grains of corrosive sublimate to an ounce of glycerine, alone or with a little rose-water added. Glycerine, however, is a base and not a pure fat; and although like the fixed oils it does not dry up, it is sufficiently hygroscopic to withdraw water from the skin, and is to many delicate skins a strong irritant.

When stronger applications are necessary, sulphur soap may be used in the same way as common soap; or precipitated sulphur may be combined with carbonate of potassa, glycerine, and alcohol, and, for mild

cases, cherry laurel water, for more severe ones, sulphuric ether, of all equal parts, and this mixture be spread upon the skin with a camel's-hair brush or rubbed gently in at night and washed off in the morning with bran water, barley water, or water containing a little mucilage. Frequently after the second application and usually after the third, the skin becomes somewhat painful and reddened, possibly a little swollen, tightly drawn, and covered with fine scales. We have then attained our object, which is to set free the exits of the follicles, removing by desquamation the epithelial debris obstructing their orifices, and therefore the lotion may now for two or three nights be omitted and its place supplied by any simple ointment, an astringent one preferably, to remove the feeling of tension in the skin, and, by taking the place of the exfoliated epidermis, to protect the new cells. Such ointments should not merely be rubbed in, but also applied on cloths like plasters. It was a saying of Hebra's that an ointment thus applied was worth three times as much as when merely rubbed in and left to be removed by the first thing with which it came in contact, and in the mean time to become a receptacle for dust, dirt, spores, etc. These ointments, spread thickly, should be allowed to remain on the skin all night, and washed off with soap and water in the morning. A general direction always to employ soap with every act of ablution should also be given. There is, in this connection, a practical point to be borne in mind. However valuable a mercurial ointment or a sulphur paste may be separately, they should never be used coincidently. The employment of one contra-indicates that of the other, especially upon parts exposed to view, as the face; for the chemical combination of the sulphur with the mercury causes a black deposit upon the skin and in the orifices of the follicles, producing much the appearance of the very disease which is under treatment. Sulphur combines in the same way with the ingredients of other lotions which might be employed, such as lead water.

Comedones are usually only a local affection. When constitutional treatment is required it is usually on account of the anæmia or general debility of the patient, and this is often due to a scrofulous or phthisical habitus which interferes with the nutritive processes and amongst others with those of the sebaceous glands. Tonics are therefore called for, especially the nutritive oils. Olive oil, half an ounce after meals, is nutritive and slightly laxative. The animal oils are perhaps preferable to the vegetable. Cod-liver oil may be freely given, alone or with a little glycerine. Half an ounce of glycerine added to a six-ounce mixture in case of very many medicines tends to conceal any disagreeable taste. This applies particularly to the oils, and especially if a few drops of oil of cinnamon are added and the mixture well rubbed together. Some writers also hold that the internal administration of oil exercises a local effect upon the sebaceous glands, and increases in their

secreted products the amount of olein present, thus preventing the inspissation of the sebum, rendering it less like an irritating foreign body, and aiding its elimination from the follicles. They base their theory upon such facts, as the rarity of comedones in fat people; the immunity from this disease of patients with oily skins, as, for example, old drinkers, or of patients with fatty livers; and upon the results of such experiments as that of Boussingault, who found that in the case of a duck fed exclusively upon butter for a fortnight, the butter "oozed from all the pores of the body." But such views certainly lack verification. Such writers recommend also instead of oils the exhibition of glycerine, one drachm three times daily, in the belief that a base is thus supplied which, by uniting with crystals of stearine and margarine in the sebum, renders them fluid and aids their elimination. But here, certainly, the direct external application of the glycerine would seem to possess superior advantages.

In all cases of disease, and especially in diseases of the skin, it is to be borne in mind that the physician is not a necromancer, distributing specific magical antidotes to "poisonous humors," but a public educator to supply instruction in a much neglected but most important branch of knowledge, namely, that of hygienic laws, and his sphere of practical usefulness is co-extensive with his inculcation and dissemination of a proper comprehension of these laws and of the necessity for their observance. The habits of the patient as regards bathing, exercise, sleep, diet, and clothing; the condition of his home in respect to warmth, light, and ventilation; his habits in regard to the use of stimulants, narcotics, etc.; even his social and mental environment: all these require the careful consideration of the conscientiously thorough medical practitioner.

(To be concluded.)

RECENT PROGRESS IN PHYSIOLOGY.¹

BY H. P. BOWDITCH, M. D.

VASO-MOTOR CENTRES.

FROM the fact that nervous centres presiding over the movements of the different voluntary muscles of the body are distributed through the length of the spinal cord, it is natural to suppose that the vaso-motor nerves arise from similarly situated centres. This, however, is not the opinion of the majority of physiologists at the present day. The experiments of Owsjannikow² on rabbits seemed conclusive on this

¹ Concluded from page 70.

² Ludwig's *Arbeiten*, 1871, page 21.